IN THE CLAIMS:

22. (currently amended) A gas flow sensor, comprising:

a reference resistor element comprised of an oxide electrically resistive material~~formed on a first electrically insulating substrate~~;

a flow-sensing resistor element comprised of said oxide electrically resistive material ~~formed on a second electrically insulating substrate, wherein said flow-sensing resistor is heated and said resistor elements are formed of an oxide electrically resistive material with a temperature coefficient of resistance between 2500 and 4500 ppm/°C~~; and

an electrical circuit coupled to said reference resistor element and said flow-sensing resistor element, said electrical circuit responsive to a ratio in resistance between said reference oxide electrically resistive material and said flow-sensing oxide electrically resistive material wherein said ratio in resistance is a function of a rate of gas flow over said materials. ~~in electrical communication with said reference resistor element and said flow-sensing resistor element~~.

23. (previously presented) The gas flow sensor according to claim 22, wherein said oxide electrically resistive material comprises a ruthenium-containing oxide in a glassy matrix.

24. (previously presented) The gas flow sensor of claim 22 wherein a temperature of said reference resistor is substantially similar to a temperature of a gas flow flowing past said resistors.

25. (currently amended) The gas flow sensor of claim 24 wherein said electrical circuit further comprises a current source coupled to said flow-sensing resistor and said electrical circuit is adapted to adjust a current flow from said current source to maintain a predetermined ~~temperature differential~~resistance ~~is maintained~~ratio between said flow-sensing resistor and said reference resistor.

26. (previously presented) The gas flow sensor of claim 22 wherein said gas is air.

27. (currently amended) The gas flow sensor of claim 22, ~~further comprising:~~ ~~an~~wherein said electrical circuit is capable of~~for~~ determining a resistance of said reference resistor and a resistance of said flow-sensing resistor, ~~wherein~~ and a mass flow rate of said gas flow is a function of said resistances.

28. (previously presented) The gas flow sensor of claim 22 wherein said electrical circuit further comprises a current source coupled to said flow-sensing resistor element and said electrical circuit is capable of maintaining a target temperature differential between said reference resistor element and said flow-sensing resistor element by controlling ~~an electrical~~ current flow to said flow-sensing resistor element.

29-32. (withdrawn)

33. (currently amended) A gas flow sensor, comprising:

a reference resistor element comprised of an oxide electrically resistive material ~~formed on a first segment of an~~attached to a first portion of an electrically insulating substrate ~~material and disposed in a gas flow without heating~~;

a flow-sensing resistor element comprised of said oxide electrically resistive material and attached to a second portion of ~~formed on a second segment of~~ said electrically insulating substrate material ~~and disposed in said gas flow, said flow-sensing resistor element being heated to a temperature higher than the temperature of said reference resistor element, wherein said reference resistor element and said flow-sensing resistor element are formed of an oxide electrically resistive material with a temperature coefficient of resistance greater than 2500 ppm/°C~~; and

an electrical circuit ~~in electrical communication with~~coupled to said reference resistor element and said flow-sensing resistor element, said electrical circuit responsive to a ratio in resistance between said reference oxide electrically resistive material and said flow-sensing oxide electrically resistive material wherein said ratio in resistance is a function of a rate of gas flow over said materials, said electrical circuit further comprising a current source coupled

to said flow-sensing resistor and said electrical circuit is adapted to adjust a current flow from said current source to maintain a predetermined resistance ratio between said flow-sensing resistor and said reference resistor.

34. (previously presented) The gas flow sensor according to claim 33, wherein said oxide electrically resistive material comprises a ruthenium-containing oxide in a glassy matrix.

35. (previously presented) The gas flow sensor according to claim 33 wherein said ruthenium-containing oxide resistor elements comprises at least one of: Pb, Si and Bi.

36. (previously presented) The gas flow sensor according to claim 33, wherein said reference resistor has an electrical resistance at least 10 times the electrical resistance of said flow-sensing resistor.

37. (previously presented) The gas flow sensor according to claim 33, wherein said reference resistor element and said flow-sensing resistor element each have a thickness between 2 and 30 micrometers.

38. (previously presented) The gas flow sensor according to claim 33, wherein said reference resistor element and said flow-sensing resistor element each has a thickness between 5 and 20 micrometers.

39. (previously presented) The gas flow sensor according to claim 33 wherein said reference resistor element is formed in a serpentine configuration.

40. (previously presented) The gas flow sensor according to claim 33 wherein said reference resistor element is formed in a serpentine configuration having vertical segments connected by horizontal segments with an aspect ratio of length/width of the resistor being at least 2.

41. (previously presented) The gas flow sensor according to claim 33 wherein said electrical circuit maintains a target temperature differential between said reference resistor element and said flow-sensing resistor element by controlling an electrical current flowing to said flow-sensing resistor element.

42-46. (withdrawn)

47. (new) The gas flow sensor of claim 22 wherein said reference resistor element and said flow-sensing resistor element are coupled to an electrically insulating substrate.

48. (new) The gas flow sensor of claim 22 wherein said reference resistor element is coupled to a first electrically insulating substrate and said flow-sensing resistor element is coupled to a second electrically insulating substrate.

49. (new) The gas flow sensor of claim 22 wherein said resistor elements have a temperature coefficient of resistance in the range of about 2600 to 3800 ppm/°C.

50. (new) The gas flow sensor of claim 33 wherein said first and second portions of said electrically insulating substrate are contiguous.

51. (new) The gas flow sensor of claim 33 wherein said first and second portions of said electrically insulating substrate are separated.

52. (new) The gas flow sensor of claim 33 wherein said resistor elements have a temperature coefficient of resistance in the range of about 2600 to 3800 ppm/°C.